

Evaluate Division (View)

You are given an array of variable pairs `equations` and an array of real numbers `values`, where `equations[i] = [Ai, Bi]` and `values[i]` represent the equation $A_i / B_i = values[i]$. Each `Ai` or `Bi` is a string that represents a single variable.

You are also given some `queries`, where `queries[j] = [Cj, Dj]` represents the j^{th} query where you must find the answer for $C_j / D_j = ?$.

Return *the answers to all queries*. If a single answer cannot be determined, return `-1.0`.

Note: The input is always valid. You may assume that evaluating the queries will not result in division by zero and that there is no contradiction.

Example 1:

Input: `equations = [["a","b"],["b","c"]]`, `values = [2.0,3.0]`, `queries =`
`[["a","c"],["b","a"],["a","e"],["a","a"],["x","x"]]`

Output: `[6.00000,0.50000,-1.00000,1.00000,-1.00000]`

Explanation:

Given: $a / b = 2.0$, $b / c = 3.0$

queries are: $a / c = ?$, $b / a = ?$, $a / e = ?$, $a / a = ?$, $x / x = ?$

return: `[6.0, 0.5, -1.0, 1.0, -1.0]`

Example 2:

Input: `equations = [["a","b"],["b","c"],["bc","cd"]]`, `values = [1.5,2.5,5.0]`,
`queries = [["a","c"],["c","b"],["bc","cd"],["cd","bc"]]`

Output: `[3.75000,0.40000,5.00000,0.20000]`

Example 3:

Input: `equations = [["a","b"]]`, `values = [0.5]`, `queries =`
`[["a","b"],["b","a"],["a","c"],["x","y"]]`

Output: `[0.50000,2.00000,-1.00000,-1.00000]`

Constraints:

- `1 <= equations.length <= 20`
- `equations[i].length == 2`
- `1 <= Ai.length, Bi.length <= 5`
- `values.length == equations.length`
- `0.0 < values[i] <= 20.0`
- `1 <= queries.length <= 20`
- `queries[i].length == 2`
- `1 <= Cj.length, Dj.length <= 5`
- `Ai, Bi, Cj, Dj` consist of lower case English letters and digits.